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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,740	08/10/2001	Takuya Yamamoto	108384-00030	6658
6449	7590	12/28/2005	EXAMINER	
ROTHWELL, FIGG, ERNST & MANBECK, P.C.			NGUYEN, KHIEM D	
1425 K STREET, N.W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20005			2823	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	09/925,740	YAMAMOTO ET AL.	
	Examiner	Art Unit	
	Khiem D. Nguyen	2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-7, 10-13, 16-19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Saida et al. (U.S. Patent 5,674,611).

In re claim 5, Saida discloses a process for producing a copper clad laminate comprising, providing an insulation layer constituent material having a first and a second side (col. 1, lines 10-45 and col. 5, lines 43-60), coating the first side with a first copper foil of a first thickness (12 μm , col. 5, lines 9-16), coating the second side with a second copper foil of a second thickness (35 μm , col. 6, lines 15-32) to produce an insulation layer constituent material, first copper foil and second copper foil assembly, wherein the thickness of the second foil is greater than the thickness of the first foil (col. 5, lines 9-16 and col. 6, lines 15-32), hot pressing the assembly to produce the laminate (col. 5, lines 43-52), wherein the first copper foil is not recrystallized during the hot pressing (col. 1, lines 10-45), and wherein the second copper foil is recrystallized during the hot pressing (col. 1, lines 46-54).

In re claim 6, Saida discloses that the thickness of the second foil (35 μm , col. 6, lines 15-32) is four times or less than the thickness of the first foil (12 μm , col. 5, lines 9-16).

In re claim 7, **Saida** discloses that the insulation layer constituent material is a resin (col. 4, lines 57-64).

In re claim 10, **Saida** discloses that, after hot pressing the Young's modulus of the first copper foil is 1.1 times more than the Young's modulus of the second copper foil (col. 5, lines 9-52).

In re claim 11, **Saida** discloses a process for producing a copper clad laminate comprising, providing an insulation layer constituent material having a first and a second side (col. 1, lines 10-45 and col. 5, lines 43-60), coating the first side with a first copper foil of a first thickness (12 μm , col. 5, lines 9-16), coating the second side with a second copper foil of a second thickness (35 μm , col. 5, lines 43-52) to produce an insulation layer constituent material, first copper foil and second copper foil assembly (col. 5, lines 43-52), wherein the thickness of the second foil is greater than the thickness of the first foil (col. 5, lines 9-16 and col. 5, lines 43-52), hot pressing the assembly to produce the laminate (col. 5, lines 43-52), wherein the first and second copper foils are recrystallized during the hot pressing, wherein the second copper foil is more recrystallized than the first copper foil (col. 1, lines 10-54).

In re claim 12, **Saida** discloses that the thickness of the second foil (35 μm , col. 5, lines 43-52) is four times or less than the thickness of the first foil (12 μm , col. 5, lines 9-16).

In re claim 13, **Saida** discloses that the insulation layer constituent material is a resin (col. 4, lines 57-64).

In re claim 16, **Saida** discloses that, after hot pressing the Young's modulus of the first copper foil is 1.1 times more than the Young's modulus of the second copper foil (col. 5, lines 9-52).

In re claim 17, **Saida** discloses a process for producing a copper clad laminate, providing an insulation layer constituent material having a first and a second side (col. 1, lines 10-45 and col. 5, lines 43-60), coating the first side with a first copper foil of a first thickness (12 μm , col. 5, lines 9-16), coating the second side with a second copper foil of a second thickness (35 μm , col. 5, lines 43-52) to produce an insulation layer constituent material, first copper foil and second copper foil assembly (col. 5, lines 43-52), wherein the thickness of the second foil is greater than the thickness of the first foil (col. 5, lines 9-16 and col. 5, lines 43-52), hot pressing the assembly to produce the laminate (col. 5, lines 43-52), wherein the first and second copper foils contract during hot pressing, wherein the second copper foil contracts to a larger extent than the first copper foil during hot pressing (col. 1, lines 10-54).

In re claim 18, **Saida** discloses that the thickness of the second foil (35 μm , col. 6, lines 15-32) is four times or less than the thickness of the first foil (12 μm , col. 5, lines 9-16).

In re claim 19, **Saida** discloses that the insulation layer constituent material is a resin (col. 4, lines 57-64).

In re claim 22, **Saida** discloses that, after hot pressing the Young's modulus of the first copper foil is 1.1 times more than the Young's modulus of the second copper foil (col. 5, lines 9-52).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9, 14, 15, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saida et al. (U.S. Patent 5,674,611).

In re claims 8, 14, and 20, Saida discloses that the second copper foil contracts at a certain percentage under pressing conditions of 170° C and 60 minutes (col. 5, lines 43-52) but does not explicitly disclose that the second copper foil contracts about 0.05% under pressing conditions of 180° C and 1 hr.

However, there is no evidence indicating the contracts percentage and the pressing conditions range of the second copper foil is critical and it has been held that it is not inventive to discover the optimum or workable percentage/range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05. Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

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In re claims 9, 15, and 21, it is well-known to one of ordinary skill in the art at the time of the invention was made that the second copper foil may be a S-HTE foil.

Response to Applicants' Amendment and Arguments

Applicant's arguments filed October 11th, 2005 have been fully considered but they are not persuasive.

Applicants contend that the reference Saida et al. (U.S. Patent 5,674,611) herein known as Saida fails to disclose each and every limitation of the claims of the present invention because Saida does not refer to recrystallization of a second copper foil during hot pressing.

In response to Applicants' contention that Saida does not refer to recrystallization of a second copper foil during hot pressing, Examiner respectfully disagrees. Examiner respectfully submits that the Applicants already try to imply the phase change in the second copper foil without providing any details regarding on what type of the second copper foil is being used and at which conditions. Since all metals are crystallized, Saida does teach that the second copper foil is recrystallized during hot pressing at 170° C for 60 minutes to prepare a copper foil/substrate laminate (col. 6, lines 15-32).

For this reason, Examiner holds the rejection proper.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.
December 21, 2005



W. DAVID COLEMAN
PRIMARY EXAMINER